

Work Order ID 113213

February-12-14 7:58:08 AM

113213

Page 1

Item ID: D412-786-025

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Tailboom Mount

Stop

NS2

Start Date: 2/21/14 Start Qty: 2.00

2

Cust Item ID:

Required Date: 2/21/14 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D412-786-1									

100

0.00

100

DOCUMENT CONTROL

DC

Memo *M.D.*

0.00

Document Control

Photocopy bluefile and create labels per PPP D412-786-025 chg001

DAS
31
9-89

14-02-13

2x

MLT 14-02-12

110

Pick Kit

0.00

110

Packaging

Memo

0.00

Packaging

2x

DAS
28
9-89

14-02-12

120

QC4- 100% Inspect kits for completeness

0.00

120

QC

Memo

0.00

Quality Control

DAS
31
9-89

14-02-13

2x

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other _____ _____ _____
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Work Order ID 113213

February-12-14 7:58:08 AM

113213

Page 2

Item ID: D412-786-025

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Tailboom Mount

Start Date: 2/21/14 Start Qty: 2.00

2

Cust Item ID:

Required Date: 2/21/14 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Packaging	0.00							
130									
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D412-786-025								
	Location: <u>FG 122</u>								
	PPP Rev: _____								
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.00							
Quality Control									

2 8 14-02-1314-02-1414-02-13

DQA: _____ Date: _____



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Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

February-12-14 7:58:07 AM

Page 1

Work Order ID: 113213

Parent Item: D412-786-025

Parent Item Name: Tailboom Mount

Start Date: 2/21/14

Required Date: 2/21/14

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP REV:A NEW ISSUE 13-10-30 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
NAST1149D0332J Washer		Purchased	No				Each	1,405.0000	24	48			
				<u>Location</u>		<u>Loc Qty</u>	<u>Loc Code</u>					DAS 28 9-89	14-02-12
				GA		200							
				m127916		200							
				ST293		800							
				m127389		415				48x			
				m127431		385							
				ST294		5							
				m125807		5							
				ST510a		400							
				m127916		400							
D4950-041 Tailboom Mount		Manufactured	No				Each	9.0000		2		DAS 28 9-89	
				<u>Location</u>		<u>Loc Qty</u>	<u>Loc Code</u>						
				ST127		9							
				111909		9				2x			
D4950-043 Tailboom Mount		Manufactured	No				Each	4.0000	2	4		DAS 28 9-89	
				<u>Location</u>		<u>Loc Qty</u>	<u>Loc Code</u>						
				ST127		4							
				111911		4				4x			

DQA: _____ Date: _____



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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

February-12-14 7:58:08 AM

Page 2

Work Order ID: 113213
 Parent Item: D412-786-025
 Parent Item Name: Tailboom Mount

Start Date: 2/21/14

Required Date: 2/21/14

Start Qty: 2.00

Required Qty: 2.00

MS21042L3

Nut

Purchased

No

Each 4,086.0000

24

DAS

28

9-89

14-02-12

DAS

31

9-89

Location

Loc Qty

Loc Code

ST314

131

M127304

90

M127831

41

24x

ST506

955

123900

955

ST509

3000

M127410

3000

MS27039-1-11

Screw

Purchased

No

Each 556.0000

24

DAS

28

9-89

DAS

31

9-89

Location

Loc Qty

Loc Code

GA

33

9662

33

ST305

223

123352

99

125654

124

ST506

300

124326

300

24x

February-12-14 7:58:08 AM

Shop Packet Print

Page 2

DQA: _____ Date: _____



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REFERENCE ONLY

DAS
31
9-89

14-02-13

FWD UPPER HARDPOINT
SEE FIGURE 2

FWD HARDPOINTS
SEE FIGURE 1

RH TAILBOOM MOUNTS
SEE FIGURES 3 & 5

LH TAILBOOM MOUNTS
SEE FIGURES 4 & 6

D412-786-011 /-021 HARDPOINT KIT

QTY -011	QTY -013	QTY -015	QTY -021	QTY -025	PART NUMBER	DESCRIPTION
X					D412-786-011	HARDPOINT KIT
1	X		1		D412-786-013	FWD HARDPOINT KIT
1		X			D412-786-015	TAILBOOM MOUNT KIT
			X		D412-786-021	HARDPOINT KIT
			1	X	D412-786-025	TAILBOOM MOUNT KIT
		1			D3866-041	TAILBOOM MOUNT
		2			D3866-043	TAILBOOM MOUNT
	1				D3870-041	FWD LH HARDPOINT
	1				D3870-042	FWD RH HARDPOINT
	1				D3870-5	FWD UPPER HARDPOINT
	1				D3871-1	DOUBLER
	1				D3871-2	DOUBLER
				1	D4950-041	TAILBOOM MOUNT
				2	D4950-043	TAILBOOM MOUNT
	10	12		12	MS21042L3	NUT
	8	12		12	MS27039-1-11	SCREW
	1				MS27039-1-12	SCREW
	1				MS27039-1-14	SCREW
	10	24		24	NAS1149D0332J	WASHER

INSTALLATION	WEIGHT	LONGITUDINAL		LATERAL	
		ARM	MOMENT	ARM	MOMENT
D412-786-011 HARDPOINT KIT	0.58 LBS 0.26 KG	164.67 IN 4.18 M	95.51 IN-LB 1.09 KG-M	-1.25 IN -0.03 M	-0.73 IN-LB -0.008 KG-M
D412-786-013 FWD HARDPOINT KIT	0.22 LBS 0.10 KG	-13.55 IN -0.34 M	-2.98 IN-LB -0.03 KG-M	2.36 IN 0.06 M	0.52 IN-LB 0.006 KG-M
D412-786-015 TAILBOOM MOUNT KIT	0.36 LBS 0.16 KG	273.58 IN 6.95 M	98.49 IN-LB 1.11 KG-M	-3.47 IN -0.09 M	-1.25 IN-LB -0.01 KG-M
D412-786-021 HARDPOINT KIT	0.64 LBS 0.29 KG	164.67 IN 4.18 M	105.39 IN-LB 1.21 KG-M	-1.25 IN -0.03 M	-0.08 IN-LB -0.01 KG-M
D412-786-025 TAILBOOM MOUNT KIT	0.42 LBS 0.19 KG	273.58 IN 6.95 M	114.90 IN-LB 1.32 KG-M	-3.47 IN -0.09 M	-1.46 IN-LB -0.02 KG-M

B	ADD -021/-025 KITS, SHEETS 6 & 7	DB	13.10.17
A	NEW ISSUE	BY	09.01.14
REV	DESCRIPTION	DATE	
DESIGN		DART AEROSPACE LTD	
DRAWN	DB	HAWKESBURY, ONTARIO, CANADA	
CHECKED	A.P.	DRAWING NO.	REV. B
MFG. APPR.	N/A	D412-786-1	SHEET 1 OF 7
APPROVED		TITLE	SCALE
DE APPR.		HARDPOINT KIT INSTALL	NTS
DATE	13.10.17	COPYRIGHT © 2009 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

- NOTES:
- 1) D412-786-011/-021 HARDPOINT KIT REQUIRED ON 412/412EP AIRCRAFT UTILIZING D412-695-011 BLADE FOLDING KIT WHERE WIRE STRIKE COMPATABILITY IS REQUIRED
 - 2) D412-786-021 HARDPOINT KIT REQUIRED ON AIRCRAFT EQUIPPED WITH BLR TAILBOOM STRAKE KIT.
 - 3) TOUCH UP DRILLED HOLES WITH ALODINE PER THE AIRCRAFT MAINTENANCE MANUAL
 - 4) TORQUE FASTENERS AS FOLLOWS: 10-32; 20-25 IN-LBS
 - 5) PRIME AND PAINT HARDPOINTS TO MATCH AIRCRAFT PAINT SCHEME PER AIRCRAFT MAINTENANCE MANUAL

Change Record

PAGE 1 OF 1

Part Number: D412-786-025

Description: TAILBOOM MOUNT INSTALLATION[illegible]